

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION**

STATE OF MICHIGAN, STATE OF
WISCONSIN, STATE OF MINNESOTA,
STATE OF OHIO, and COMMONWEALTH
OF PENNSYLVANIA,

Plaintiffs,

V

UNITED STATES ARMY CORPS OF
ENGINEERS and METROPOLITAN WATER
RECLAMATION DISTRICT OF GREATER
CHICAGO,

Defendants.

No. 10 CV 4457

Hon. Robert M. Dow, Jr.

**MEMORANDUM IN SUPPORT OF WENDELLA'S RESPONSE
TO PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION**

TABLE OF CONTENTS

Table of Authorities	iv
Glossary of Parties and Terms	vii
INTRODUCTION	1
THE PARTIES.....	3
JURISDICTIONAL STATEMENT	4
ARGUMENT	5
A. Plaintiffs’ Claim for Injunctive Relief is Unsupported by the Science and the Law.....	5
B. Wendella Cannot Survive Lock Closures: Plaintiffs Have Not Shown That Their Perceived Harm is Greater Than Wendella’s.....	7
C. Plaintiffs’ Purported Expert, Tammy Newcomb, Does Not Have the Experience or Qualifications to Render Any Meaningful Opinion on the Complex Scientific Issues in This Lawsuit.....	8
THE SCIENCE OF ASIAN CARP: ASIAN CARP HAVE NOT BREACHED THE BARRIERS AND WILL NOT HARM THE GREAT LAKES	10
A. The Developer of the eDNA Method in Water Finds That Dr. Lodge’s Work is Incomplete and Unreliable.....	10
B. Wendella’s Expert Studied the Potential Impact of Asian Carp in Lake Michigan and Concludes That it is Unlikely That These Fish Can Subsist in Lake Michigan and the Great Lakes	14
THE LAW DOES NOT SUPPORT PLAINTIFFS’ CLAIM FOR INJUNCTIVE RELIEF.....	17
A. Plaintiffs Do Not Have Article III Standing to Assert a Claim Against the Defendants	17
1. Plaintiffs Cannot Satisfy the General Article III Requirement of a “Case Or Controversy”	17
2. Plaintiffs are not Entitled to “Special Solitude” for Standing Purposes in the Absence of a Procedural Right to Challenge Action of the USACE or the MWRD.....	19

B.	Plaintiffs Cannot Bring a Claim Against the USACE as Parens Patriae	20
C.	Plaintiffs Cannot State a Claim for Public Nuisance Upon Which Relief Can Be Granted	20
1.	Asian Carp Pose No Immediate Threat to the Great Lakes and the Public	21
2.	Defendants Have Not Unreasonable Interfere with a Public Right.....	22
D.	The USACE Has Not Acted Arbitrarily or Capriciously in its Implementation of Measures to Prevent Asian Carp Emigration into the Great Lakes	24
PLAINTIFFS' TRUE MOTIVE IS TO END ILLINOIS' RIGHT TO USE LAKE MICHIGAN WATER		27
APPENDIX "A"		29
I.	Statement of Facts – Lock Closures and Complete Separation Should Not be Permitted.....	29
A.	There are Over One Hundred Eighty (180) Non-Native Species Currently in Lake Michigan.....	29
B.	The Barrier System Installed by the USACE has Worked to Keep Asian Carp from Lake Michigan.....	29
C.	Procedural History	30
D.	Only One Asian Carp has been Caught or Sighted Past the Barriers and the Testing is not Yet Complete as to How it Got There.....	31
E.	There are No Studies Showing Lock Closures Would be a Useful Deterrent to Asian Carp.....	33
F.	Prior Congressionally Mandated Efficacy Studies Proved by the USACE to the Secretary of the Army Did Not Request Nor Recommend Lock Closures	33
II.	A Discussion of the History of the Illinois Waterway System is Vital to Show the Arbitrary Nature of the USACE Decision to Close the Locks.....	35

A.	Introduction.....	35
B.	Overview of the Canal System	36
C.	The Navigational Locks.....	36
D.	Business on the CAWS.....	37
E.	Recreational Uses Advanced by the CAWS Creates Revenue and Jobs.....	39
F.	The Barrier System	40

TABLE OF AUTHORITIES

U.S. CONSTITUTION

U.S. Constitution, Article III	17
--------------------------------	----

FEDERAL CASES

<i>Babbitt v. United Farm Workers</i> , 442 U.S. 289, 298 (1979)	19
<i>Bubalo v. Navegar, Inc.</i> , 1998 U.S. Dist. LEXIS 3598, *5 (N.D. Ill. 1998)	20
<i>Girl Scouts of Manitou Council, Inc. v. Girl Scouts of U.S.A.</i> 549 F.3d 1079, 1085-1086 (7th Cir. 2008)	7
<i>Lujan v. Defenders of Wildlife</i> , 504 U.S. 555 (1992)	18, 19
<i>Massachusetts v. EPA</i> , 127 S.Ct. 1438 (2007)	19
<i>Massachusetts v. Mellon</i> , 262 U.S. 447 (1923)	20
<i>Missouri v. Illinois</i> , 180 U.S. 208, 248 (1901)	21
<i>Missouri v. Illinois</i> , 200 U.S. 496 (1906)	36
<i>State of Michigan v. U.S. Environmental Protection Agency</i> 581 F.3d 524 (7 th Cir. 2009)	18-20
<i>Winter v. NRDC</i> , 129 S. Ct. 365, 376 (2008)	6
<i>Wisconsin v. Illinois</i> , 278 U.S. 367, 399 (1929)	27
<i>Wisconsin v. Illinois</i> , 281 U.S. 696 (1930)	28
<i>Wisconsin v. Illinois</i> , 388 U.S. 426, 430 (1967)	30
<i>Wisconsin v. Illinois</i> , 449 U.S. 48 (1980)	30

STATUTES

5 U.S.C. § 702-706	24, 25
16 U.S.C. § 3371, <i>et. seq.</i>	23
16 U.S.C. § 4701, <i>et. seq.</i>	40
16 U.S.C. § 4722(c)(2)	23
16 U.S.C. § 4722(i)(3)	40
28 U.S.C. § 1331	24
28 U.S.C. § 1361	24
28 U.S.C. § 1391(e)	4

28 U.S.C. § 2201	24
33 U.S.C. § 2309a	40
42 U.S.C. § 7607(b)(1)	19
Energy and Water Development Appropriations Act of 1982 Pub. L. No. 97-88 (1981)	29, 36
Energy and Water Development Appropriations Act of 2010 Pub.L. No. 111-85 (2009)	34
Supplemental Appropriations Act of 1983 Pub. L. No. 98-63 (1982)	36
Water Resources Development Act §3061 Pub. L. No. 110-114 (2007)	34, 40
<u>REGULATIONS</u>	
33 C.F.R. Parts 207.420, 207.425	37
<u>FEDERAL RULES OF CIVIL PROCEDURE</u>	
F.R.C.P. Rule 24(a), 24(b)	4
<u>RESTATEMENTS</u>	
Restatement (Second) of Torts § 821B(1), (2)	20
<u>ARTICLES</u>	
Cooke, Sandra L. and Hill, Walter R., <i>Can filter-feeding Asian carp invade the Laurentian Great Lakes? A bioenergetic modelling exercise</i> , Freshwater Biology (2010)	10, 14
Kolar, Cynthia S. and Lodge, David M., <i>Ecological Predictions and Risk Assessment for Alien Fishes in North America</i> , Science 298:1233-36 at 1235.	15
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Great Lakes Aquatic Nonindigenous Species List at http://www.glerl.noaa.gov/res/Programs/ncrais/great_lakes_list.html	17
Hill, Libby, <i>"The Chicago River: A Natural & Unnatural History"</i> Lake Claremont Press (2000)	35
Letter to Major General Peabody, General Quarles, Cameron Davis and Michael Cox, April 19, 2010	17
Notre Dame eDNA Risk Reduction Study Fact Sheet	12

USACE study, “*Great Lakes Navigation System:
Economic Strength to the Nation*” 37

Wisconsin Sea Grant website at,
<http://www.seagrant.wisc.edu/greatlakesfish/textonly/exotics.html> 29

GLOSSARY OF PARTIES AND TERMS

2007 Control Plan:

The November 2007 interagency study commissioned by the U.S. Fish and Wildlife Service, *Management and Control Plan for Bighead, Black, Grass, and Silver Carps in the United States*. The 2007 Control Plan contains a comprehensive list of recommendations for preventing the movement of Asian carp.

APA

The Administrative Procedure Act, P.L. 79-404, 5 U.S.C. §551, et. seq.

Asian carp:

The two types of Asian carp that currently inhabit the Illinois River and are the center of attention are bighead carp (*Hypophthalmichthys nobilis*) and silver carp (*H. molitrix*). Seven species of carp that have been introduced to the United States. Asian carp are native to the large rivers of Eastern and Southern Asia. Both species were originally brought to the United States in the 1970s for research projects and by private fish farmers in Arkansas for use in aquaculture facilities to improve water quality and increase fish production. Asian carp typically spawn in relatively warm water – between 18-30° C (64.4-86° F) with an optimum of 22-28° C (71.6-82.4° F) for silver carp, and 25-30° C (77-86° F) for bighead carp.

Barriers:

Collectively, the electric dispersal barriers located near Romeoville, Illinois, designed and operated by the USACE to prevent the movement of aquatic nuisance species through the CAWS. The Barriers operate by creating an electrical field in the water of the CAWS, which either stuns fish or creates sufficient discomfort to deter them from attempting to pass through the area. The field is created by running direct electrical current through steel cables secured to the bottom of the CAWS. In 2004, a second Barrier - Barrier IIA - was approved under Section 1135 of the Continuing Authority Program, 33 U.S.C. § 2309a. Barrier IIA incorporated results from various research studies pertaining to fish deterrence. Its electrical arrays send a pulsing DC current creating an electric field in the water that deters fish from passing across the area. A third Barrier – Barrier IIB - is expected to be completed in September, 2010.

CAWS:

The CSSC is a part of a canal system called Chicago Area Waterways System. The CAWS is a system of canals and natural waterways serving as both a navigational link between the Mississippi River System and Lake Michigan, as well as an outlet for the storm water and effluent of the city of Chicago. The CAWS consist of the CSSC, the North Shore Channel, and the Calumet-Sag Channel. The CAWS was to link the Mississippi

River with the Chicago Calumet, Grand Calumet and Little Calumet Rivers to reverse the flow of these rivers away from Lake Michigan.

Chicago Lock

The lock facilities at the Chicago Controlling Works, located at the confluence of the Chicago River and Lake Michigan.

Complete Separation

Any ecological or other separation to permanently physically separate the CAWS from Lake Michigan that would impede or eliminate navigation through the Locks.

CSSC:

The Chicago Sanitary and Ship Canal. In the late 19th century, Chicago developed a plan to reverse the flow of the Chicago River because it had become polluted. The plan was to reverse the flow of the river, so that it flowed away from Lake Michigan and toward the Mississippi River, ultimately emptying into the Gulf of Mexico. Using the creation of a new canal system, Illinois redirected the Chicago River to flow west into the Des Plaines River, a tributary of the Illinois River and ultimately to the Mississippi River. By reversing the Chicago River flow, the canal systems helped dilute and flush away pollution. Reversing the Chicago River also caused the waterway's new canal system to be deep enough to permit commercial navigation. With the completion of the CSSC in 1900, the permanent connection between Lake Michigan and the Mississippi drainage basins was finalized. By statute, the USACE operates and maintains the CSSC as needed to support navigation from Chicago Harbor on Lake Michigan to Lockport on the Des Plaines River.

eDNA

Environmental deoxyribonucleic acid.

Efficacy Study

A set of interim studies conducted by the USACE – including the Interim I, II, III and IIIA reports – evaluating the effectiveness of the Barriers.

IDNR

Illinois Department of Natural Resources

Lock or Locks

The Chicago Lock, and the O'Brien Lock may be referred to individually as a "Lock," and collectively as the Locks. The USACE operates them in accordance with MWRD regulations. Vessels enter and exit the

Chicago end of the CSSC through the Locks. Flow of the CAWS is managed by the MWRD, but is subject to regulation under the decree in the Original Case and 33 CFR Parts 207.420 and 207.425, which provide for the maintenance of navigable depths to support commercial navigation.

Modeling Study

Dr. Sandra L. Cooke's and Walter Hill's article, "Can filter-feeding Asian carp invade the Laurentian Great Lakes; a bioenergetic modeling exercise," *Freshwater Biology* (2010). This article was the result of the authors' bioenergetics modeling and field research at the Illinois Natural History Survey aimed at predicting the potential impact of Asian carp on the Great Lakes.

MWRD

Metropolitan Water Reclamation District of Greater Chicago

NANPCA

The Nonindigenous Aquatic Nuisance Species Prevention and Control Act, Title I of P.L. 101-646 (104 Stat. 4761, 16 U.S.C. 4701, enacted November 29, 1990).

O'Brien Lock

The Thomas J. O'Brien Lock, located approximately 7 miles from Lake Michigan on the Calumet River.

Original Case:

Wisconsin v. Illinois (278 U.S. 367) granted Illinois the right to reverse the flow of the Chicago River and divert water that would otherwise flow into Lake Michigan. The Original Case has been revisited twice in the past eighty-ne (81) years to update the amount of water Illinois is authorized to divert from Lake Michigan. *Wisconsin v. Illinois*, 388 U.S. 426, 430 (1967); *Wisconsin v. Illinois*, 449 U.S. 48 (1980).

Plaintiffs' Motion

Collectively refers to Plaintiffs Motion for Preliminary Injunction and Plaintiffs' Brief in Support of Motion for Preliminary Injunction, each filed June 22, 2010.

Section 126 Authority

Discretionary authority granted to the Secretary of the Army pursuant to Section 126 of the Energy and Water Development Appropriations Act of 2010, Pub. L. No. 111-85 (2009), subject to the requirements of USACE regulations, policy and guidelines, to implement measures recommended in the Efficacy Study, or provided in interim reports, authorized under the WRDA, with such modifications or emergency measures as the Secretary of the Army deems to be appropriate, to prevent aquatic nuisance species from bypassing the CSSC Barriers.

Sluice Gates:

Connected to the Locks are sluice gates, which are used to combat the risk of flooding during significant rainstorms by drawing water from the CAWS into Lake Michigan. The MWRD operates the sluice gates—which are large plates that slide into grooves in the sides of a channel. The sluice gates control water level and flow rates at the O'Brien Lock and Dam, the Chicago Controlling Works and the Wilmette Pumping Station. The sluice gates and pumps are controlled by the MWRD. The MWRD uses the sluice gates to regulate the diversion of Lake Michigan water into the CAWS; and to direct diversion from Lake Michigan to improve and maintain inland water quality, lockage and navigation.

USACE

U.S. Army Corps of Engineers

USEPA

U.S. Environmental Protection Agency

USEPA Audit:

In mid-December of 2009, the USEPA performed an initial audit of Dr. Lodge's laboratory, *Laboratory Audit Report Lodge Laboratory Department of Biological Sciences University of Notre Dame*. The USEPA acknowledges that it, "did not address the interpretation of the eDNA results in regards to the presence or absence, proximity or abundance of Silver or Bighead Carp, the presumed source of the eDNA."

USFWS

U.S. Fish and Wildlife Service

Working Group:

The 2007 Control Plan was conducted by the Asian Carp Working Group, whose members included a large, diverse group of scientists, academics, business owners, government agencies and other interested parties.

WRDA

Water Resources Development Act, Pub. L. 110-114.

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STATE OF MICHIGAN, STATE OF)	
WISCONSIN, STATE OF MINNESOTA,)	
STATE OF OHIO, and COMMONWEALTH)	
OF PENNSYLVANIA,)	
)	
Plaintiffs,)	
)	
v)	No. 10 CV 4457
)	
UNITED STATES ARMY CORPS OF)	Hon. Robert M. Dow, Jr.
ENGINEERS and METROPOLITAN WATER)	
RECLAMATION DISTRICT OF GREATER)	
CHICAGO,)	
)	
Defendants.)	

**MEMORANDUM IN SUPPORT OF WENDELLA’S RESPONSE
TO PLAINTIFFS’ MOTION FOR PRELIMINARY INJUNCTION**

NOW COMES Intervenor, WENDELLA SIGHTSEEING COMPANY, INCORPORATED, (“Wendella”), an Illinois corporation, by and through its attorneys, STUART P. KRAUSKOPF and KURT KAUFFMAN, as and for its Memorandum in Support of Wendella’s Response to Plaintiffs’ Motion for Preliminary Injunctive Relief filed jointly by the STATE OF MICHIGAN, STATE OF MINNESOTA, STATE OF OHIO, STATE OF WISCONSIN and the COMMONWEALTH OF PENNSYLVANIA (hereinafter, all of these states shall be collectively called, “Plaintiffs”) and in support, states and alleges as follows:

I. INTRODUCTION

Plaintiffs have failed to provide any scientific evidence and reliable expert support by which to put Wendella out of business. They conclude, without support, that Asian carp are knocking at the door of Lake Michigan. They conclude without support that should Asian carp reach Lake Michigan, the Great Lakes will no longer be a viable place for boating and fishing. Almost

laughably, they conclude that businesses like Wendella can survive Lock closures by dropping passengers off a boat on the river side only to get on a second boat waiting for them on the lake side to continue a tour or charter. In a misguided attempt to give credence to their conclusory statements, Plaintiffs offer only one purported scientific expert, who has no experience or qualifications that would allow her to form any meaningful opinion on the complex scientific issues in this case.

Conversely, Wendella has attached Affidavits of preeminent experts who are well qualified to assist this Court in its deliberation of the issues raised in this case. As discussed in detail herein, Plaintiffs wrongfully rely on eDNA evidence to support the proposition that there are numerous Asian carp above the barriers. Plaintiffs do not have an eDNA expert of their own. Instead, they use the incomplete work performed by Dr. David Lodge, who was retained by the USACE. Plaintiffs have no way of disputing Wendella's eDNA expert, who developed the use of eDNA in water to locate species.

Plaintiffs' purported expert, Tammy Newcomb, does not have the qualifications to render opinions in this case. She has no background in eDNA science, nor does she have qualifications by which to render opinions as to the impact on Asian carp in Lake Michigan. Specifically, this State of Michigan employee has never engaged in any study or work involving Asian carp. Her report is merely a research project – containing tidbits from other people who may or may not be qualified to render opinions. Plaintiffs have no way of disputing Wendella's expert aquatic ecologist, who participated in a modeling and field study of the expected impact of Asian carp in Lake Michigan. Wendella's expert opines that it is not likely that Asian carp can subsist in Lake Michigan, thus ending any discussion that these fish will out-compete other fishes the Great Lakes.

Plaintiffs cannot meet their burden of proof: they fail to show that closing the Locks would have any impact on keeping Asian carp out of Lake Michigan; they fail to show that the efforts of the

USACE have been unsuccessful in keeping Asian carp from entering or nearing Lake Michigan; they fail to show that if Asian carp were to enter Lake Michigan, it would result in the end of fishing and boating on the Great Lakes; and they fail to meet the elements required for the equitable relief sought here.¹

II. THE PARTIES

Wendella is an Illinois Corporation, with its principal place of residence at 405 N. Wabash, Chicago, Illinois. Wendella has intervened in this Action based on the relief sought by the Plaintiffs, in which Plaintiffs are first seeking temporary closure of the Chicago Lock and the O'Brien Lock and then permanent closure of the Locks.

Michael A. Cox, the Attorney General for the State of Michigan, has filed this action based on his unfounded belief that Asian carp will soon invade and cause great harm to the Great Lakes. Michigan borders Lake Michigan and Lake Erie.

Lori Swanson, the Attorney General for the State of Minnesota, has filed this action based on her unfounded belief that Asian carp will soon invade and cause great harm to the Great Lakes. Minnesota borders Lake Superior.

Richard Cordray, the Attorney General for the State of Ohio, has filed this action based on his unfounded belief that Asian carp will soon invade and cause great harm to the Great Lakes. Ohio borders Lake Erie.

J. B. Van Hollen, the Attorney General for the State of Wisconsin, has filed this action based on his unfounded belief that Asian carp will soon invade and cause great harm to the Great Lakes. Wisconsin borders Lake Michigan and Lake Superior.

¹ Wendella has attached a comprehensive Statement of facts hereto as Appendix "A."

Thomas W. Corbett, Jr., the Attorney General for the Commonwealth of Pennsylvania, has filed this action based on his unfounded belief that Asian carp will soon invade and cause great harm to the Great Lakes. Pennsylvania borders a small part of Lake Erie.

New York, Indiana, and Illinois all border the Great Lakes but are not plaintiffs in this action. The Province of Ontario, Canada also borders the Great Lakes, but it is also not a plaintiff in this action.

The USACE is a governmental agency, whose stated mission is to, "Provide vital public engineering services in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters."

The MWRD is an independent government and taxing body encompassing approximately 91 percent of the land area and 98 percent of the assessed valuation of Cook County, Illinois. Its mission is to protect the health and safety of the public in its service area, protect the quality of the water supply source (Lake Michigan), improve the quality of water in watercourses in its service area, protect businesses and homes from flood damages, and manage water as a vital resource for its service area. The MWRD's service area is 883.5 square miles of Cook County, Illinois.

III. JURISDICTIONAL STATEMENT

Wendella brings this action, pursuant to its right as an Intervenor, pursuant to Rule 24(a) of the Federal Rules of Civil Procedure or, in the alternative, Rule 24(b). Venue is appropriate here since the Locks and the subject waterways are located in or near the City of Chicago. See, 28 U.S.C. § 1391(e) (venue is proper for a suit against an officer, an agency, or the U.S. in any judicial district which, "cause of action arose...").

IV. ARGUMENT

A. PLAINTIFFS' CLAIM FOR INJUNCTIVE RELIEF IS UNSUPPORTED BY THE SCIENCE AND THE LAW

Plaintiffs fail to meet the required elements for a preliminary injunction, because: they do not provide sufficient proof that Lock closures will serve any purpose in preventing Asian carp emigration;² they have no expert witness to testify that the eDNA samples prove that Asian carp are in the CSSC past the Barriers; their purported expert has no background in the study of Asian carp; their purported expert failed to consider that Asian carp likely do not have the ability to subsist on the low amount of plankton in Southern Lake Michigan – which is the alleged entry point that is at issue in Plaintiffs' Motion; and, they have no expert who can or will prove that Asian carp emigration into Lake Michigan will have any impact on the Great Lakes fishing industry.

The balance of equities far favors Wendella. For Wendella, closure of the Locks or Complete Separation will result in the demise of its business. There need not be any scientific studies to confirm this. Plaintiffs' trivial suggestion that tour boats drop off its passengers inside the locks and have them walk to another boat on the Lake side is so ridiculous that it demonstrates the cloudy thinking of those supporting Lock closures or Complete Separation. As discussed below, Wendella cannot financially survive the transfer of passengers from the river to the lake.

Plaintiffs have convinced their citizens that Asian carp can and will destroy their fishing industry. Their argument fails because they provide no scientific support for this proposition. On balance, it is certain that Lock closures will force Wendella to lay off its employees and close up

² Plaintiffs repeatedly refer to the "migration" of Asian carp in their memorandum of law. Migration is an inappropriate term for the current movement of Asian carp. The term migration is restricted to periodic, seasonal, or regular movements of populations to a more favorable habitat, and the return trip to their place of origin. The term emigration better suits the present movement of Asian carp. Emigration refers to irregular movements of a population out of an area, with no return. "Migration of animals." The Columbia Encyclopedia, Sixth Edition, 2008. *Encyclopedia.com* 29 Jul. 2010 <<http://www.encyclopedia.com>>.

shop. It is also well founded in science that Asian carp have not breached the Barriers and these fish will not harm the Great Lakes fishing industry.

Wendella has retained the scientist who developed eDNA research in water, who concludes that Dr. Lodge has not conducted the research necessary nor provided sufficient materials by which to support the claim that there are Asian carp above the Barriers. Wendella has also retained an expert who worked on what Wendella believes to be the only scientific study directed at whether or not Asian carp could establish a self-sustaining population in Lake Michigan. She concludes that Asian carp may not have the ability to subsist in Lake Michigan and that Lake Michigan is not an ideal environment for Asian carp reproduction and growth.

Wendella will go out of business if its boats do not have access to Lake Michigan. Without any expert support to suggest that Lock closures will have any impact in Asian carp emigration, Plaintiffs fail to meet their burden of proof. Plaintiffs cannot demonstrate that they have a protectable interest, since they have not offered this Court any evidence that Asian carp will destroy some or all of the Great Lakes fishing industry. Since an injunction is an extraordinary remedy, Plaintiffs must show that they will likely suffer irreparable harm if the status quo is not preserved. *See Winter v. NRDC*, 129 S. Ct. 365, 376 (2008).

Plaintiffs have not offered sufficient evidence that they will likely suffer irreparable harm if a preliminary injunction is not issued. Absent from Plaintiffs' submissions are any qualified opinions regarding the possibility of harm arising out of Asian carp reaching Lake Michigan. The crux of Plaintiffs' claim is that there will be irreparable harm done to Lake Michigan by Asian carp if greater measures are not implemented to keep them out. Yet, there is no support as to their "cause and effect" conclusion: they have no expert who has studied the possible outcomes of Asian carp emigration; they have not explained how Asian carp can survive in rivers and warm weather

environments, but not necessarily in a large lake; and they offer no opinions as to how Lock closures will have any effect in the prevention of Asian carp emigration. Plaintiffs have not shown any reasonable likelihood of prevailing on the merits, which is Plaintiffs' burden to prove. See, *Girl Scouts of Manitou Council, Inc. v. Girl Scouts of U.S.A.*, 549 F.3d 1079, 1085-1086 (7th Cir. 2008).

**B. WENDELLA CANNOT SURVIVE LOCK CLOSURES:
PLAINTIFFS HAVE NOT SHOWN THAT THEIR PERCEIVED HARM IS
GREATER THAN WENDELLA'S**

Wendella is a family-owned, family-run company that has spent the last seventy-five years serving millions of tourists and Chicagoans seeking to view the beauty of Chicago from the Chicago River and Lake Michigan. See, Affidavit of Michael Borgstrom, a copy of which is incorporated herein as Exhibit "A," at ¶4. Wendella offers sightseeing tours and charters on Lake Michigan and the Chicago River showcasing the history and architecture of the city. Since 1962, Wendella's water taxis have carried over four million (4,000,000) passengers, providing a safe, inexpensive and environmentally friendly mode of transportation in the downtown Chicago area. Wendella employs approximately one hundred fifty (150) employees, and engages the services of more than one-hundred fifty (150) vendors and subcontractors. Wendella operates a fleet of seven (7) vessels, with a total capacity of over one thousand, three hundred (1,300) passengers. A new boat was recently put in service at an estimated cost of over two million, five hundred thousand dollars (\$2,500,000). Wendella operates ten (10) months of the year with up to six thousand, five hundred (6,500) scheduled tours and up to one hundred fifty (150) private charters each season. See, Borgstrom Affidavit ¶5.

Wendella's business operations are dependent on continued "show-and-go" access to Lake Michigan through the Chicago Lock. Borgstrom Affidavit ¶6. Although Wendella does not use the

O'Brien Lock, this Memorandum incorporates the O'Brien Lock, since closure of either or both of the Locks is not supported by the law or the science.

All Wendella tours originate from its docks located at the North Bank of the main branch of the Chicago River at the Northwest Corner of the Michigan Avenue Bridge. Because all of Wendella's docks are located on the Chicago River, it must go through the Chicago Lock to enter and return from Lake Michigan. Borgstrom Affidavit ¶7.

Wendella's sole source of revenue is generated through its boat tours, charters and water taxis. As described in more detail below, closure of the Locks will put Wendella out of business, and it would force it to lay off all of its employees. Borgstrom Affidavit ¶8. Wendella cannot afford to pick up passengers at its dock on the river, transport the passengers near the entrance to Lake Michigan, drop them off there and then pick them up in a separate vessel in the lake. Wendella has eight boats in its fleet, all of which are needed to pick up the amount of passengers for daily tours. Assuming Wendella was to put four of those boats on the lake, keeping four on the river, the number of passengers would be cut by more than half. Wendella does not have a dock to keep boats on the lake side. There are no docks available on the lake side for Wendella to keep its boats. Logistically, Wendella would have to hire more people to assist passengers from one boat to another. From a safety standpoint, there are inherent dangers in moving passengers on and off a boat, especially on days when the lake is choppy. More employees would be needed to assist in this process, resulting in additional costs of operations. Borgstrom Affidavit ¶9-11.

**C. PLAINTIFFS' PURPORTED EXPERT, TAMMY NEWCOMB,
DOES NOT HAVE THE EXPERIENCE OR QUALIFICATIONS
TO RENDER ANY MEANINGFUL OPINION ON THE COMPLEX SCIENTIFIC
ISSUES IN THIS LAWSUIT**

Plaintiffs' sole scientific "expert," has turned in a research project, which required no scientific expertise to write. Ms. Newcomb is a State Administrative Manager with the Michigan

Department of Natural Resources. See, Affidavit of Tammy Newcomb, a copy of which is incorporated herein as Exhibit “B,” at ¶4. To form the far-reaching opinions offered in her Affidavit, Ms. Newcomb states that she “reviewed academic literature, research and studies concerning Asian carp as well as publicly available information concerning sampling for Asian carp.” Newcomb Affidavit ¶5.

Nowhere in Ms. Newcomb’s resume is there any scientific research or field study regarding Asian carp – in fact, there is not a single reference in her education and work experience to Asian carp. Similarly, she has no experience whatsoever regarding the eDNA method that is center stage in this case and which forms the basis for much of her Affidavit.

Ms. Newcomb does not meet the minimum standard of specialized scientific knowledge and experience required to render an informed and reliable opinion regarding the complex scientific issues of this case.³ Not only are her conclusions wrong, but she has not bothered to gather the necessary facts by which to support any opinion. As one example, she relies on eDNA sampling results as proof that “a number of bighead and silver cap (sic) [that] have migrated through the CAWS, swimming either through or around the electrical barrier.” Newcomb Affidavit ¶12. She does not concern herself with the primers that form the basis of any eDNA study, the need to conduct real-world calibration studies to assess possible abundance, nor does she give credence to alternate explanations for the detection of eDNA. Similarly, she states that the Great Lakes “provide desirable physical and thermal habitat” for Asian carp (Newcomb Affidavit ¶9.), without having any expertise in this field or engaging in any independent study. Her opinion in this regard is in direct contravention of the only scientific study on the subject that concludes that Lake Michigan is a “plankton desert” and that Asian carp will be unlikely to grow and reproduce in most areas of the

³ Along with this Response, Wendella has contemporaneously filed its Motion to Exclude Ms. Newcomb’s testimony in this case.

Great Lakes. See, copy of Dr. Sandra L. Cooke's and Walter R. Hill's article "*Can filter-feeding Asian carp invade the Laurentian Great Lakes? A bioenergetic modelling exercise*," *Freshwater Biology* (2010), which is referred to as the Modeling Study and incorporated herein as Exhibit "C." Her unsupported conclusions are wrong and do not assist this Court in rendering its decision.

It is telling that Plaintiffs would offer a non-expert to provide critical opinions on issues as technically complex as eDNA and the biological and ecological characteristics of a fish that she has never studied and the potential impact on these fish in a completely new habitat. The fact that Ms. Newcomb is essentially a life-long resident and has been employed for the last eight years by the State of Michigan - the leading Plaintiff in this suit - serves to make her Affidavit even more unreliable.

Wendella has canvassed the globe for the true experts in the scientific fields relevant to this dispute. Plaintiffs rely entirely on one of their own. Plaintiffs have proffered a single expert witness who has close personal and vocational connections with the Plaintiff spearheading this dispute. In Wendella's view, the reason is obvious -- Plaintiffs were unable to locate a qualified or neutral expert that would provide testimony in support of their case.

Even if this Court were to conclude that Ms. Newcomb is sufficiently qualified to provide an expert opinion, her lack of factual inquiry, consideration and scientific analysis into the issues relevant in this case would fail to satisfy any minimum standard of scientific and professional rigor necessary to provide her conclusory opinions.

**V. THE SCIENCE OF ASIAN CARP: ASIAN CARP HAVE NOT BREACHED THE
BARRIERS AND WILL NOT HARM THE GREAT LAKES**

**A. THE DEVELOPER OF THE eDNA METHOD IN WATER FINDS THAT
DR. LODGE'S WORK IS INCOMPLETE AND UNRELIABLE**

Plaintiffs wrongfully rely on eDNA sampling results to support the unfounded proposition

that there are numerous Asian carp beyond the barriers and in asserting that Lock closures are necessary. Prior to Dr. Lodge's reports of eDNA findings and Plaintiffs' legal action, Lock closures and Complete Separation were not even part of the discussion regarding the emigration of Asian carp or other invasive species. See, 2007 Control Plan, a copy of which is incorporated herein as Exhibit "D." The methodology and data collected by Dr. Lodge regarding eDNA has not been published in any scientific journal or other publication, and the primers used in his research have not been made available to the Plaintiffs, the USACE or anyone else. See, Declaration of David Lodge, filed with the U.S. Supreme Court, a copy of which is incorporated herein as Exhibit "E." His work has not been peer reviewed either by an independent panel or anyone else as required by congressional mandate. See, Declaration of Major General John W. Peabody, filed with the U.S. Supreme Court, a copy of which is incorporated herein as Exhibit "F."

In an effort to uncover the true science regarding eDNA and the potential impact of Asian carp on Lake Michigan, Wendella searched the scientific community for qualified experts. Wendella contacted what it believes to be the five (5) eDNA experts in the world. Two such experts stated that they asked Dr. Lodge to review his Asian carp eDNA data and that Dr. Lodge refused to share his data with them.

Wendella's search led to Dr. Gentile Francesco Ficetola, of the Department of Environmental Sciences at the University of Milan-Bicocca, Italy. Dr. Ficetola, along with a team of scientists from France, developed the first eDNA method to potentially detect invasive species in water. See, Affidavit of Dr. Gentile Francesco Ficetola, a copy of which is incorporated herein as Exhibit "G," at ¶5. According to Dr. Ficetola, as described in his Affidavit, it is impossible to evaluate Dr. Lodge's findings as the data and critical technical details are missing. Ficetola Affidavit ¶20-21, 33-34.

Each species – including fish – has a unique DNA sequence. Ficetola Affidavit ¶9. Fish release DNA in the environment around them both during life (e.g., through urine, mucus, feces and skin) and also after they die. Ficetola Affidavit ¶10. For each species, a specific primer of a certain DNA length is selected at the beginning of the study to amplify DNA fragments from each species. Ficetola Affidavit ¶15. The selection of primers is critical, as long DNA fragments contain more information but degrade more quickly. Ficetola Affidavit ¶16, 19. Shorter DNA fragments can persist for longer periods in the environment, and therefore present a high false-positive risk of detecting eDNA when the target species is not present or is very far away. Ficetola Affidavit ¶19. On information and belief, Dr. Lodge has not released any information regarding the length of the primers used by his team, making it impossible to make any assessments of the validity of his reports.

In mid-December of 2009, the USEPA performed the USEPA Audit of Dr. Lodge's laboratory. See, USEPA Audit, a copy of which is incorporated herein as Exhibit "H." As noted in the USEPA Audit, even under the best circumstances "it is impossible to entirely eliminate the possibility of individual false positive detections" due to the very nature of the eDNA method. See, USEPA Audit at p. 18. Even if eDNA is actually found, it cannot tell us how it got there or whether it is from a live or dead Asian carp. Peabody Declaration, at p. 18. As Dr. Lodge notes on his website, "eDNA can be held in suspension and transported." Risk Reduction Study Fact Sheet: eDNA, http://edna.nd.edu/Environmental_DNA_at_ND/News_files/eDNA%20fact%20sheet%202-10-10.pdf. The USEPA acknowledged that it "did not address the interpretation of the eDNA results in regards to the presence or absence, proximity or abundance of Silver or Bighead Carp, the presumed source of the eDNA." USEPA Audit, at p. 9.

Even assuming, *arguendo*, that there is eDNA of Asian carp past the barriers, there are many plausible explanations for how it could have been there other than a live fish that breached the barriers. Many communities in the Chicago area consume Asian carp, and individuals could discard remains of Asian carp into the waterways. Peabody Declaration, at p. 14. Individual live fish could have been released into the CSSC. As Dr. Lodge notes, the “confirmed presence of silver and/or bighead carps in multiple Chicago area park ponds is strong evidence that intentional human release of these carps is sufficiently common.” Lodge Declaration at p. 22. A significant example is the finding of an Asian carp in the Garfield Park lagoon in Chicago on July 8, 2010, less than two weeks before the fish was caught in Calumet Harbor.⁴ The Garfield Park lagoon is completely landlocked and not connected to any river, lake or other waterway, and therefore this fish must have been the result of human release.

Asian carp could also have been sold as fish bait because they resemble some native species as juveniles. Lodge Declaration, at p. 22. Asian carp eDNA could have been carried in ballast water in barges moving through the CSSC. Peabody Declaration, at p. 14; Lodge Declaration, at p. 20. It could also be transported in excrement of birds or other animals feeding on Asian carp. Lodge Declaration, at p. 20. eDNA could also be found in sewage effluent from individuals that ate Asian carp or discarded fish waste. eDNA can travel through the digestive tract of fish or through sewage and remain detectable. Ficetola Affidavit, at ¶30-31; Lodge Declaration, at p. 20.

Dr. Lodge also states that “positive [eDNA] results allow no reliable inferences about the absolute abundance” of the target species. Lodge Declaration, at p. 18. It is possible to better evaluate the potential abundance of the target species through calibration studies that compare findings to those in areas known to have Asian carp. See, Declaration of Dr. Elizabeth C. Fleming

⁴ Although the testing has not been officially released, the initial report suggests that the fish found in Lake Calumet was put there by humans. This information was released on August 5, 2010, by John Rogner, Director of the IDNR.

filed with the U.S. Supreme Court, a copy of which is incorporated herein as Exhibit "I," at p. 8; Ficetola Affidavit, at ¶¶26, 34. Dr. Lodge's team has not yet performed this critical step in the process. In this regard, Dr. Fleming of the USACE notes that "[h]ypothesis are currently being formulated by Notre Dame regarding positive eDNA findings but that research has not yet been conducted." See, Fleming Declaration at p. 8.

Ultimately, Dr. Ficetola concludes that he cannot evaluate Dr. Lodge's findings as the technical details of Dr. Lodge's work are missing and further research is necessary. Ficetola Affidavit, at ¶¶26, 34. As General Peabody accurately stated, eDNA evidence alone should not be used, "in the absence of confirmatory evidence, to take major policy steps like closing the locks open to Lake Michigan." Peabody Declaration at p. 18.

Dr. Lodge's work should not be used as a basis for Lock closures or Complete Separation of the CAWS and Lake Michigan. Dr. Lodge's work was based on the eDNA procedures created by a team led by Dr. Ficetola. See, Lodge Declaration, at p. 6.

**B. WENDELLA'S EXPERT STUDIED THE POTENTIAL IMPACT OF
ASIAN CARP IN LAKE MICHIGAN AND CONCLUDES THAT IT IS
UNLIKELY THAT THESE FISH CAN SUBSIST IN LAKE MICHIGAN AND
THE GREAT LAKES**

Wendella retained Dr. Sandra Cooke, a professor and aquatic ecologist at Duke University, for her expertise as to the impact of Asian carp in Lake Michigan. As a scientist with the Illinois Natural History Survey, part of the University of Illinois, Dr. Cooke applied bioenergetics models to Asian carp to predict the potential for these fish to invade the Great Lakes. See, Affidavit of Dr. Sandra L. Cooke, which is incorporated herein as Exhibit "J," at ¶4. This modeling and field research culminated in Dr. Cooke's and Walter R. Hill's article published in *Freshwater Biology*, "Can filter-feeding Asian carp invade the Laurentian Great Lakes? A bioenergetic modelling exercise." While most scientists state that the impact of Asian carp in Lake Michigan is unknown,

Dr. Cooke concludes: (1) that Lake Michigan is a very different habitat than the Illinois River where Asian carp have been successful; (2) that most regions of southern Lake Michigan are not ideal habitats for Asian carp survival and reproduction; (3) that Asian carp food resources in southern Lake Michigan are probably too low to support carp growth; (4) that Asian carp will have difficulty establishing a self-sustaining population in the open water zones of the Great Lakes; and (5) even if Asian carp were to enter the “plankton desert” of southwest Lake Michigan, it seems unlikely that they would be able to consume sufficient food to swim to Green Bay or another “plankton oasis.” See, Cooke Affidavit, at ¶8, 10-14, 18, 21, 26.

Dr. Lodge agrees that two species of Asian carp would probably not cause a problem if introduced to the Great Lakes. In a 2002 study of species characteristics, Dr. Lodge concluded that silver carp, if introduced, “would neither spread quickly nor be perceived as a nuisance in the Great Lakes.” This study also concludes that black carp would not “become established in the Great Lakes if introduced.” Ecological Predictions and Risk Assessment for Alien Fishes in North America, Cynthia S. Kolar and David M. Lodge, Science 298:1233-36 at 1235.⁵ A copy of this article is attached hereto as Exhibit “K.”

Dr. Cooke confirms that Asian carp do not eat other fish – they subsist primarily on plankton. The Modeling Study refers to Lake Michigan as a “plankton desert,” which likely does not contain plankton in sufficient quantities to support Asian carp. See, Modeling Study, at p. 14. Dr. Cooke acknowledges that the Modeling Study requires additional support and acknowledgment, so that more can be done to study the impact of Asian carp on the Great Lakes. What is known is that the Plaintiffs and their non-expert continue to assert the need to take the drastic step of closing the Locks, without any sense of the science of Asian carp and its impact on the Great Lakes.

⁵ Dr. Lodge’s study did not focus on Asian carp unlike Dr. Cooke’s Modeling Study that only considered the impact of Asian carp in the Great Lakes.

Dr. Cooke's opinions demonstrate that any decision to close the Locks or to cause Complete Separation between the CAWS and Lake Michigan is clearly not supported by science. Dr. Cooke is a Ph.D. in Earth and Environmental Sciences. She spent nine years conducting aquatic ecology research. She currently holds a faculty position at Duke University, where she teaches a course called, "Aquatic Invasive Species." See, Cooke Affidavit, at ¶2-3.

As part of the Modeling Study, Dr. Cooke worked on a bioenergetics model to explain how food energy consumed by an animal is allocated to growth, metabolism, excretion and, reproduction. This model was used to predict if Asian carp growth would be food limited in various regions of the Great Lakes, including southern Lake Michigan. See, Cooke Affidavit, at ¶4.

Dr. Cooke understands the danger of Asian carp – or any other invasive species – with respect to its impact in a foreign environment. Dr. Cooke also acknowledges the difficulty in predicting the impact of Asian carp in Lake Michigan. See, Cooke Affidavit, at ¶24, 26.

To test the bioenergetics models on actual Asian carp, Dr. Cooke's team conducted mesocosm experiments at the Jake Wolf Fish Hatchery near the Illinois River. See, Cooke Affidavit, at ¶20. Asian carp consistently lost weight in the mesocosms with plankton densities similar to the open water zones of the Great Lakes. See, Cooke Affidavit, at ¶23. This reinforced the results of the Modeling Study – that Asian carp would have difficulty maintaining biomass and establishing self-sustaining populations in these areas. See, Cooke Affidavit, at ¶23. This is consistent with the situation in Lake Erie, where Asian carp have been known to exist since 1995 with no signs of establishing a self-sustaining population.

Ultimately, Dr. Cooke can only opine as to some, but not all of the questions that need to be answered as to the impact of Asian carp on Lake Michigan. She concludes that this issue "warrants further research and a prudent policy approach." See, Cooke Affidavit, at ¶27. She identifies what

should be done: experimental studies to compare the feeding habits, growth rates, reproduction rates and other characteristics of Asian carp to assess their ability to coexist with other fish in Lake Michigan. See, Cooke Affidavit, at ¶¶24-27.

Plaintiffs and their proffered non-expert have ignored the issues raised by Dr. Cooke and many other scientists who have sought further studies in this area. On April 19, 2010, Wendella's attorneys sent a letter to General Peabody, General Quarles and Cameron Davis, President Obama's Emissary to the Great Lakes, and, most importantly, Michael Cox, the Attorney General for the State of Michigan, telling them of the research Wendella had compiled in both the eDNA field and in the area of bioenergenics. A copy of this letter is incorporated herein as Exhibit "L."

Mr. Cox and the Plaintiffs ignored the letter, Dr. Cooke's opinions, Dr. Ficetola's opinions and continued to publicize that unless the Locks are closed, the Great Lakes fishing and boating industry will be destroyed. Plaintiffs filed this lawsuit even though they knew Lock closures and Complete Separation are contradictory to established science.

Nowhere is there any study to show that Asian carp can and will outcompete fish currently in Lake Michigan. Many of the fish that comprise the Great Lakes fishing industry are not native to the Great Lakes. See, Great Lakes Aquatic Nonindigenous Species List at http://www.glerl.noaa.gov/res/Programs/ncrais/great_lakes_list.html; yet, this Court is asked by Plaintiffs to render extreme relief and close the shipping canals forever.

**VI. THE LAW DOES NOT SUPPORT PLAINTIFFS' CLAIM FOR
INJUNCTIVE RELIEF**

**A. PLAINTIFFS DO NOT HAVE ARTICLE III STANDING TO ASSERT A
CLAIM AGAINST THE DEFENDANTS**

**1. Plaintiffs Cannot Satisfy the General Article III Requirement of a "Case
Or Controversy"**

The Plaintiffs in this case fail to satisfy the requirements for Article III standing. Article III

ensures that federal court jurisdiction is limited to “cases and controversies.” U.S. Const. Art. III. As the parties attempting to invoke federal jurisdiction, Plaintiffs bear the burden of proving that they have standing. See *State of Michigan v. U.S. Environmental Protection Agency*, 581 F.3d 524 (7th Cir. 2009). The Supreme Court set forth the three part test a plaintiff must meet in the seminal case, *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992). First, the plaintiff must have suffered an injury-in-fact that is both concrete, particularized, and actual or imminent. Second, there must be a causal connection between the injury and the challenged conduct, such that the injury is fairly traceable to the challenged conduct of the defendant. Third, it must be “likely,” as opposed to “speculative,” that the requested relief will redress the alleged injury. *Michigan v. EPA* at 528, citing *Lujan* at 560.

Plaintiffs clearly fail in proving even the first prong of this test as not a single Plaintiff has suffered any injury-in-fact to establish Article III standing. Plaintiffs cannot and do not make any claim of actual injury. Plaintiffs claim in their Memorandum – without any scientific support - that Asian carp will cause “devastation” and that such an impact is “imminent” based on eDNA reports of Dr. Lodge and the unsubstantiated conclusion that Lake Michigan is a viable habitat for Asian carp. Plaintiffs’ Motion at pp. 23-26. Plaintiffs do not offer any expert or specific scientific support for these theories. Plaintiffs’ purported expert has no background in eDNA science, nor does she have qualifications by which to render opinions as to the impact on Asian carp in Lake Michigan.

In contrast, Dr. Ficetola, the developer of the eDNA method in water states that the eDNA research relied on by the Plaintiffs is unreliable and incomplete. Also, Dr. Cooke, the scientist who participated in the only modeling study and field research directed at assessing the potential impact of Asian carp in the Great Lakes, opines that most areas of the Great Lakes are not a suitable habitat for Asian carp. She also states that Asian carp would have difficulty establishing a self-sustaining

population in the open water zones of the Great Lakes. Cooke Affidavit at ¶23. As a result, Plaintiffs are unable to satisfy the requirement that a threatened injury is “certainly impending” to constitute injury-in fact to establish Article III standing. *See, Babbitt v. United Farm Workers*, 442 U.S. 289, 298 (1979).

2. Plaintiffs are not Entitled to “Special Solitude” for Standing Purposes in the Absence of a Procedural Right to Challenge Action of the USACE or the MWRD

The Plaintiffs are also unable to invoke the notion of “special solitude” afforded to States for standing purposes under Article III. *See, Massachusetts v. EPA*, 127 S.Ct. 1438 (2007), *Michigan v. EPA* at 529. In *Massachusetts v. EPA*, the Court emphasized that Congress specifically authorized the type of challenge to action taken by the Administrator of the EPA under the Clear Air Act. *See*, 42 U.S.C. §7607(b)(1), and “[t]hat authorization is of critical importance to the standing inquiry: ‘Congress has the power to define injuries and articulate chains of causation where none existed before.’” *Massachusetts*, citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992). By finding this procedural right, the Court in *Massachusetts v. EPA* held that the plaintiff in that case can “challenge agency action unlawfully withheld ... can assert that [procedural] right without meeting the normal standards of redressability and immediacy.”

In a misguided attempt to tie in federal statutes as in *Massachusetts v. EPA*, Plaintiffs assert without any legal support that the actions of the USACE and the MWRD constitute violations of the Lacey Act and the NASPCA. Congress did not provide a statutory procedural right to challenge to actions of the USACE or the MWRD in the Lacey Act or the NASPCA. Plaintiffs are not entitled to the “special solitude” granted to the plaintiffs in *Massachusetts v. EPA*. Without any procedural right specifically granted by Congress, Plaintiffs must satisfy the traditional Article III standing requirements. As described above, Plaintiffs cannot meet this burden.

**B. PLAINTIFFS CANNOT BRING A CLAIM AGAINST THE USACE
AS PARENS PATRIAE**

Plaintiffs assert that they are bringing the claims on behalf of their respective citizens as *parens patriae*. A State may invoke this doctrine by asserting a quasi-sovereign interest in the well-being of its citizens. Unfortunately for Plaintiffs, a State (or States) may not invoke the doctrine of *parens patriae* to sue the United States and its agencies, including the USACE. *See Massachusetts v. Mellon*, 262 U.S. 447, 485-86 (1923), *Michigan v. EPA* at 529.

**C. PLAINTIFFS CANNOT STATE A CLAIM FOR PUBLIC NUISANCE
UPON WHICH RELIEF CAN BE GRANTED**

Even assuming, *arguendo*, that the Plaintiffs have standing to bring this lawsuit, they cannot state a claim for federal common law public nuisance. A public nuisance is defined as an unreasonable interference with a right common to the general public. Restatement (Second) of Torts § 821B(1). The Restatement definition of public nuisance has two elements: an “unreasonable interference” and “a right common to the general public.” *Bubalo v. Navegar, Inc.*, 1998 U.S. Dist. LEXIS 3598, *5 (N.D. Ill. 1998). The circumstances that may sustain a holding that an interference with a public right is unreasonable include:

- (a) whether the conduct involves a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience, or
- (b) whether the conduct is proscribed by a statute, ordinance or administrative regulation, or
- (c) whether the conduct is of a continuing nature or has produced a permanent and long-lasting effect, and, as the actor knows or has reason to know, has a significant effect upon the public right. *Id.* (citing Restatement (Second) of Torts § 821B(2)).

An injunction is not proper unless the Plaintiffs can prove facts to manifest a danger that is real and immediate and supported by determinative and satisfactory evidence.

Missouri v. Illinois, 180 U.S. 208, 248 (1901). Where evidence is conflicting and the injury is doubtful, an injunction is inappropriate. *Id.*

1. Asian Carp Pose No Immediate Threat to the Great Lakes and the Public

The threat to the Great Lakes is neither immediate nor potentially severe as the Plaintiffs allege. Over the past eight months, federal and state agencies and commercial fishermen have conducted extensive searching and fishing efforts to find Asian carp above the barriers. In doing so, these agencies have applied thousands or pounds of the fish toxicant, rotenone, into the CSSC on multiple occasions and killed hundreds of thousands of pounds of fish. After collecting thousands of fish over multiple applications, no Asian carp were located. The only sighting beyond the barriers has been a single fish caught as part of a large netting operation in Lake Calumet on July 22, 2010. The Illinois Department of Natural Resources has yet to confirm whether this single fish was there due to human release. Plaintiffs filed this case prior to the release of these test results.

Importantly, close to that time, on July 8, 2010, an Asian carp was also fished out of Garfield Park lagoon on Chicago's west side. The Garfield Park lagoon is completely landlocked and not connected to any river, lake or other waterway, therefore this fish must have been the result of human release. As a result, the Plaintiffs reliance on the physical presence of a single Asian carp found beyond the barriers overstates the immediacy of the risk to the Lake Michigan ecosystem.

Plaintiffs rely heavily on purported eDNA findings in claiming an imminent danger. Dr. Lodge's research, however, has never been peer reviewed. Dr. Lodge has not provided the primers used in his study, which prevents any evaluation of his work done to this point. Dr. Ficetola states that Dr. Lodge's research is incomplete and unreliable.

Plaintiffs claim that the eDNA method was tested as part of the USEPA Audit. See Plaintiffs' Motion at 12. However, the EPA acknowledges in that report that it "did not address the

interpretation of the eDNA results in regards to the presence or absence, proximity or abundance of Silver or Bighead Carp, the presumed source of the eDNA.” See, USEPA Audit, at p. 9. As further explained by Dr. Ficetola, the audit report suggests the basic laboratory methods used by Dr. Lodge’s team are adequate but does not provide the critical details which would allow evaluation of their findings. Ficetola Affidavit at ¶¶20-21, 33. Despite the Plaintiffs’ reliance on eDNA to argue that Asian carp have breached the barrier, the science remains untested and unreliable.

Plaintiffs ignore the only scientific study that has been done to assess the potential impact of Asian carp in the Great Lakes. This study concludes: (1) that Lake Michigan is a very different habitat than the Illinois River where Asian carp have been successful; (2) that most regions of southern Lake Michigan are not ideal habitats for Asian carp survival and reproduction; (3) that Asian carp food resources in southern Lake Michigan are probably too low to support carp growth; (4) that Asian carp will have difficulty establishing a self-sustaining population in the open water zones of the Great Lakes; and (5) even if Asian carp were to enter the “plankton desert” of southwest Lake Michigan, it seems unlikely that they would be able to consume sufficient food to swim to Green Bay or another “plankton oasis.” See, Cooke Affidavit, at ¶¶8, 10-14, 18, 21, 26.

In light of the true science of eDNA and Asian carp biology, Plaintiffs cannot satisfy their burden that any purported danger is real or imminent.

2. Defendants Have Not Unreasonably Interfered with a Public Right

Plaintiffs have failed to show a significant interference with public health, safety, peace, comfort or convenience. Plaintiffs cannot prove that Asian carp are about to strike Lake Michigan with a vengeance. Only one Asian carp has been caught above the barriers and initial tests show that it was placed there by a human. Testing is underway, but not yet complete, to determine whether that fish was released by humans. Plaintiffs’ reliance on Dr. Lodge is unfounded, since Dr. Lodge’s

methods and conclusions remain untested and unreliable. The only study assessing the potential impact of Asian carp on Lake Michigan shows that the lake is likely unsuitable for Asian carp growth and reproduction. Also, there is no scientific evidence or other support for the claim that Asian carp will be able to out-compete other species of fish in Lake Michigan.

Plaintiffs have also failed to show that the alleged conduct is proscribed by a statute, ordinance or administrative regulation. The Plaintiffs assert that the USACE and the MWRD have violated the Lacey Act, 16 U.S.C. § 3371, et. seq., and the NANPCA. While the silver carp is listed as an injurious species for purposes of the Lacey Act, this by no means creates a statutory ground for claiming an unreasonable interference with a public right. Additionally, the NANPCA calls for the USACE to “carry out cooperative, environmentally sound efforts with regional, State and local entities to minimize the risk of such an introduction.” 16 U.S.C. § 4722(c)(2). This is exactly what the USACE has done.

There is no evidence that in the unlikely event that Asian carp reach Lake Michigan, there would be a long-lasting effect on the ecosystem of Lake Michigan. As described in detail above, no evidence has been produced by any agency or scientist showing that Asian carp can or will establish a self-sustaining population or out-compete other fish species in Lake Michigan.

Ultimately, Plaintiffs have produced no evidence, beyond mere speculation, that Asian carp have the potential to create a public nuisance. As a result, declaratory and injunctive relief would be unwarranted, and would have a disastrous effect on the public and on the businesses that rely on the link between the CAWS and Lake Michigan.

D. THE USACE HAS NOT ACTED ARBITRARILY OR CAPRICIOUSLY IN ITS IMPLEMENTATION OF MEASURES TO PREVENT ASIAN CARP EMIGRATION INTO THE GREAT LAKES

The USACE has taken appropriate measures by which to prevent Asian carp from emigrating into Lake Michigan, through the CAWS. Although Plaintiffs would like to see the USACE take additional action, it is quite clear that the action taken to date is working and is not subject to challenge. A plaintiff seeking judicial review of an administrative action must demonstrate: (1) that the agency action is final; (2) administrative remedies required by law have been exhausted; and (3) agency action is ripe for judicial review: courts consider fitness of issue for judicial decision and hardship to parties of withholding court consideration. 5 U.S.C. § 702. Plaintiffs do not meet these elements.

In the absence of a specific statute that authorizes judicial review of a federal agency action, parties may seek review under the APA, Sections 702-704, which provide a general cause of action for parties adversely affected or aggrieved by agency action for which there is no other adequate remedy in court. 5 U.S.C. § 702-704. Where neither a specific statute nor the APA provides a cause of action, parties may obtain review by seeking various forms of relief, including equitable relief under a federal court's general equity jurisdiction, 28 U.S.C. Section 1331, declaratory relief under the Declaratory Judgment Act, 28 U.S.C. Section 2201, and mandamus under 28 U.S.C. Section 1361.

In cases of factual determinations, the court determines whether the factual premise has substantial support in the administrative record viewed as a whole. The administrative record is the file of materials that the agency maintains as exclusive basis for its decision; or if no such file, it consists of all unprivileged materials that were actively considered by the agency in connection with the action under review. Under Section 706, the APA requires that a court "hold unlawful and set

aside agency action” that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706. It requires the court to determine whether the agency exercised its discretion in a reasoned way. An agency must demonstrate to the court that it has examined the relevant data and articulated a satisfactory explanation for its actions including a rational connection with the facts and the choice made. 5 U.S.C. § 706. As set forth herein, the USACE has acted reasonably, effectively and legally.

The USACE has implemented viable methods by which to prevent Asian carp emigration. Under the NANPCA, the USACE shall investigate and identify environmentally sound methods to stop the Asian carp from reaching Lake Michigan—including any of those methods that could be included into the operation or construction of the lock system. The 2007 Control Plan contains a comprehensive list of over thirty alternatives to Lock closures for preventing the movement of Asian carp, each of which were communicated to the USACE in the fall of 2007. Presently, the USACE has implemented those methods which were determined to be most effective, pursuant to the 2007 Control Plan.

In or around January 4, 2010, General John W. Peabody, Commander and Division Engineer of the Great Lakes and Ohio River Division of the USACE, outlined four short-term options to address this issue. In his Second Declaration before the U.S. Supreme Court, a copy of which is incorporated herein as Exhibit “M,” his recommendations for preventing Asian carp emigration did not include any form of Lock closures or permanent separation. He recommended: “(1) operation, maintenance, and improvement of the barrier system, (2) monitoring for the potential presence of Asian carp, (3) using the efficacy Study process to recommend near term solutions, and (4) using Inter-Basin Transfer Study to develop long term solutions.” See, Peabody Second Declaration, at p. 7.

It is not disputed that Asian carp are currently in the Illinois River one mile below the Barriers. The USACE has acted on its concern that these fish could find their way in the CSSC during a flood. In January of 2010, the USACE released the Interim I report of the Efficacy Study. The recommendation in that study called for thirty-four thousand, six hundred (34,600) feet of concrete barricades and thirty-three thousand, four hundred (33,400) feet of chain link fence to be used to create a barrier. It is Wendella's understanding that the building of this barrier has already begun. The USACE is now building another barrier in the CSSC, Barrier IIB, which is expected to be completed in September, 2010.

The USACE also rejected modified Lock closures in its June, 2010 "Interim III" report, the third in a series of interim studies prepared as part of the Efficacy Study. The Interim III report evaluated the potential for risk reduction through modifying operations of the CAWS structures, including sluice gates, pumping stations and the Locks. A "Risk Assessment Panel" of various interagency experts found that there was not a high probability that regularly scheduled Lock closures would reduce the risk of Asian carp establishment in Lake Michigan. As part of the Interim III report, the USACE recommended the installation of screens on the sluice gates at the O'Brien Lock and at the Chicago Controlling Works, along with intermittent lock closures in support of fish control efforts by partner agencies.

Plaintiffs are not satisfied with the steps taken by the USACE, yet they have not proven that the existing Barriers do not work. There is nothing arbitrary and capricious about keeping the CAWS operational, a system that has well served the public for almost a century. The relief sought here is extreme and completely without any scientific and legal basis.

Although it is prudent to continue to consider and implement alternative measures to create new barriers to keep the Asian carp out of Lake Michigan, the measures that are in place are sufficient.

VII. PLAINTIFFS' TRUE MOTIVE IS TO END ILLINOIS' RIGHT TO USE LAKE MICHIGAN WATER

Invasive species have entered the Great Lakes prior to and after the construction of the CAWS. Throughout these years there have been discussions regarding the prevention of invasive species. There has not been any discussion of Lock closures or Complete Separation until the State of Michigan championed the ideas as an effective method to prevent Asian carp emigration.

In December of 2009, the State of Michigan filed a Motion for Preliminary Injunction before the U.S. Supreme Court seeking to have the USACE close the Locks. Michigan tried to convince the U.S. Supreme Court that the Locks must be closed in order to prevent Asian carp from entering Lake Michigan. After its Motion was denied, Michigan requested that the U.S. Supreme Court reconsider its ruling. Again, the U.S. Supreme Court denied Michigan's second request for an injunction.

The State of Michigan also filed a Motion before the U.S. Supreme Court to reopen the Original Case, in pursuit of its veiled attempt to obtain full ecological separation between Lake Michigan and the Mississippi River. The Original Case involved Wisconsin's claim that Illinois was diverting too much water out of Lake Michigan, as a result of the reversal of the Chicago River. The water diversion issue has been revisited on many occasions by States neighboring the Great Lakes, in filings before the Court. Plaintiffs are using the Asian carp issue as a method to stop Illinois from diverting water from Lake Michigan. As discussed herein, there has never been any basis in science to support closing the Locks.

In the Original Case, six states bordering the Great Lakes sued Illinois for withdrawing water from Lake Michigan. See, *Wisconsin v. Illinois*, 278 U.S. 367, 399 (1929). The U.S. Court entered a

decree governing the volume of water Illinois is authorized to divert from Lake Michigan. *Wisconsin v Illinois*, 281 U.S. 696 (1930). The measurement and quantities of diversion, along with the accounting method, are specified in further detail in the High Court Decree and in a 1996 Memorandum of Understanding between the U.S. Department of Justice and several states bordering the Great Lakes. Any decision to close the Locks or cause Complete Separation between the CAWS and Lake Michigan would undermine the prior decisions of the U.S. Supreme Court.

WHEREFORE, Intervenor, WENDELLA SIGHTSEEING COMPANY, INCORPORATED, respectfully requests this Honorable Court for the entry of an Order:

- A. Denying Plaintiffs' Motion for Preliminary and Injunction;
- B. Assessing attorneys Fees and Costs against Plaintiffs and in favor of Wendella; and,
- C. For such other and further relief as this Court deems just and proper.

Respectfully submitted,

WENDELLA SIGHTSEEING COMPANY,
INCORPORATED, Intervenor,

By: /s/ Stuart P. Krauskopf
One of Its Attorneys

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APPENDIX "A"

I. STATEMENT OF FACTS - LOCK CLOSURES AND COMPLETE SEPARATION SHOULD NOT BE PERMITTED

A. THERE ARE OVER ONE HUNDRED EIGHTY (180) NON-NATIVE SPECIES CURRENTLY IN LAKE MICHIGAN

Invasive species are not a new phenomenon. There are currently over one hundred eighty (180) species in the Great Lakes that are not native to these waters. These include, among others, Brown and Rainbow Trout, and Coho, Chinook and Pink Salmon. See, Wisconsin Sea Grant website at, <http://www.seagrants.wisc.edu/greatlakesfish/textonly/exotics.html>. These species have entered the Great Lakes via numerous methods (e.g., ballast water) and entry points (e.g., St. Lawrence Seaway). Id.

B. THE BARRIER SYSTEM INSTALLED BY THE USACE HAS WORKED TO KEEP ASIAN CARP FROM LAKE MICHIGAN

The USACE is an agency of the United States and a subdivision of the United States Army. The USACE owns the navigational locks located within the CAWS, and has statutory authority to operate and maintain them as required to sustain navigation pursuant to applicable regulations and memoranda of understanding with the MWRD. See, e.g., Energy and Water Development Appropriation Act, 1982, Pub. L. No. 97-88, § 107, 95 Stat. 1137 (1981).

The USACE and the State of Illinois, working in collaboration with various other agencies, have worked to prevent the emigration of invasive species, including bighead and silver carp, from the CAWS to Lake Michigan. One effective measure has been the construction of electric fish Barriers near Romeoville, Illinois, which are described in detail below.

The 2007 Control Plan contains a comprehensive list of recommendations for preventing the emigration of Asian carp. This study was conducted by the Working Group, whose members included a large, diverse group of scientists, academics, business owners, government agencies and

other interested parties. Despite the comprehensive two hundred fifty-one (251) page 2007 Control Plan, the Working Group did not mention or recommend closure of the Locks in any form as a method to prevent the emigration of Asian carp.

C. PROCEDURAL HISTORY

Despite the failure to find any actual Asian carp beyond the Barriers, on December 21, 2009, Michael Cox, Attorney General of the State of Michigan (and then a Gubernatorial hopeful in that State), filed a Motion for Preliminary Injunction (the “First Motion”) with the U.S. Supreme Court. The First Motion, relying heavily on Dr. Lodge’s unpublished research and findings, demanded that the U. S. Supreme Court enter a preliminary injunction against the State of Illinois to close and cease operation of the Locks.

Also on December 21, 2009, the State of Michigan filed a Motion to reopen the Original Case, which granted Illinois the right to reverse the flow of the Chicago River and divert water that would otherwise flow into Lake Michigan (“Motion to Reopen”). The Original Case has been revisited twice in the past eighty-one (81) years to update the amount of water Illinois is authorized to divert from Lake Michigan. *Wisconsin v. Illinois*, 388 U.S. 426, 430 (1967); *Wisconsin v. Illinois*, 449 U.S. 48 (1980).

The First Motion was denied without comment by the U.S. Supreme Court in its January 19, 2010 Order. Subsequently, Dr. Lodge produced a new eDNA report that purportedly found silver carp eDNA on the Lake Michigan side of the O’Brien Lock. Again, without any actual investigation of the eDNA science, and based solely on this sampling, Mr. Cox returned to the U.S. Supreme Court and filed a Renewed Motion for Preliminary Injunction on February 4, 2010 (the “Renewed Motion”). The U.S. Supreme Court denied the State of Michigan’s Renewed Motion without

comment on March 22, 2010. On March 26, 2010, the U.S. Supreme Court denied the Motion to Reopen without comment.

D. ONLY ONE ASIAN CARP HAS BEEN CAUGHT OR SIGHTED PAST THE BARRIERS AND THE TESTING IS NOT YET COMPLETE AS TO HOW IT GOT THERE.

In May of 2009, the USACE became aware of Dr. Lodge's work in the area of eDNA. See, Declaration of General Vincent V. Quarles, filed with the U. S. Supreme Court, a copy of which is incorporated herein as Exhibit "N-1," at p. 18. In or around July, 2009, the USACE began financing Dr. Lodge's work through a cooperative agreement with the University of Notre Dame. See, Quarles Declaration at p. 19; Lodge Declaration, at p. 3. Pursuant to this agreement, Dr. Lodge's team began extensive sampling in various sections of the CSSC. During the summer and fall of 2009, Dr. Lodge reported to the USACE that his team had detected Asian carp eDNA within five to six miles of the barriers. See, Quarles Declaration, at p. 19. Relying on Dr. Lodge's report, the USACE increased the voltage on Barrier IIA.

In November of 2009, Dr. Lodge reported to the USACE that his team had detected Asian carp eDNA in the Cal-Sag Channel near the O'Brien Lock. In response, the USACE organized an application of rotenone, a fish toxicant, to kill all fish, including Asian carp, in the CSSC between the Lockport Dam and the barriers during scheduled maintenance of Barrier IIA. See, Declaration of General Charles Wooley, filed with the U. S. Supreme Court, a copy of which is incorporated herein as Exhibit "O," at p. 4. Fifty-five thousand (55,000) pounds of fish were killed and collected, none of which were Asian carp. See, Wooley Declaration, at p. 6. Additionally, the USACE and the Illinois Department of Natural Resources engaged commercial fishermen – all with experience fishing for Asian carp – to conduct an intensive fishing expedition in the Cal-Sag Channel from December 1-6, 2009. See, Wooley Declaration, at p. 7. They collected over 1,000

fish, none of which were Asian carp. In mid-May of 2010, the USACE, in collaboration with partner agencies including the USFWS and IDNR, closed a five-mile section of the Cal-Sag Channel and conducted a six (6) day fish kill in an area where Dr. Lodge's team had reported positive detections of eDNA. Over 2,000 (two thousand) pounds of rotenone were applied and over 100,000 (one hundred thousand) pounds and 40 (forty) species of fish were killed. No Asian carp were found.

On June 22, 2010, after months of intensive searching and fishing efforts and hundreds of thousands of pounds of dead fish, a single Asian carp was fished out of Lake Calumet as part of a large netting operation. Close to that time, on July 8, 2010, an Asian carp was also fished out of Garfield Park lagoon on Chicago's west side. The Garfield Park lagoon is completely landlocked and not connected to any river, lake or other waterway, therefore this fish must have been the result of human release.

Despite Plaintiffs' claims that an invasion of Asian carp is imminent, only one fish has been caught or sighted above the Barriers – which was caught well after the U.S. Supreme Court rejected Michigan's last case filed there. There are ways to determine if this fish crossed the Barriers or if it was released intentionally. Testing is currently ongoing, and the results are to be released in a matter of weeks. Initial reports indicate that this fish was released by humans and did not cross the Barriers. Instead of waiting for the test results, Plaintiffs filed this lawsuit without waiting for the results of the autopsy to see how the fish came to be above the Barriers – even though the other fish found in Garfield Park lagoon around the same time was clearly the result of human release. Plaintiffs have argued that Asian carp are in abundance above the Barriers, and that the USACE's actions have not prevented the emigration of Asian carp, but there is no proof that even one Asian carp has crossed the Barriers.

E. THERE ARE NO STUDIES SHOWING LOCK CLOSURES WOULD BE A USEFUL DETERRENT TO ASIAN CARP

The Working Group developed an Asian Carp Strategy Framework in May, 2010. The Working Group concluded that neither permanent nor temporary Lock closures will effectively prevent Asian carp from entering Lake Michigan. See, copy of the Working Group's report, a copy of which is incorporated herein as Exhibit "P."

The USACE also considered modified Lock closures in its June, 2010 "Interim III" report, the third in a series of interim studies as part of the Efficacy Study. The Interim III report evaluated the potential for risk reduction through modifying operations of the CAWS structures, including sluice gates, pumping stations and the Locks. A "Risk Assessment Panel" of various interagency experts found that there was not a high probability that regularly scheduled Lock closures would reduce the risk of Asian carp establishment in Lake Michigan. As part of this report, the USACE recommended the installation of screens on the sluice gates at the O'Brien Lock and at the Chicago Controlling Works, along with intermittent Lock closures in support of fish control efforts by partner agencies.

Other than these reports which conclude that Lock closures will not be effective in prevented Asian carp emigration into Lake Michigan, there are no other studies, reports or other documents relating to the efficacy of closing the Locks on preventing Asian carp from Lake Michigan. Before asserting that the drastic measure of Lock closure is necessary, Plaintiffs would have engaged in such a study or retained an expert in this field - but they did not.

F. PRIOR CONGRESSIONALLY MANDATED EFFICACY STUDIES PROVIDED BY THE USACE TO THE SECRETARY OF THE ARMY DID NOT REQUEST NOR RECOMMEND LOCK CLOSURES

Congress has provided that the Secretary of the Army may, in consultation with appropriate partner agencies, conduct a study to describe a range of options and technologies for reducing

impacts of hazards that may reduce the efficacy of the electric fish Barriers. Water Resources Development Act ("WRDA"), Section 3061(b)(1)(D)(2007). The Efficacy Study recommended the construction of a series of concrete barricades and a chain link fence over an approximately thirteen (13) mile stretch of the Des Plaines River upstream of the Barriers and the disabling of two culverts (ditches) between the Des Plaines River and the CSSC. Without this Barrier, it is possible that Asian carp and other aquatic species could spread from the Des Plaines River to the CSSC upstream of the barriers during a major flooding event. The physical Barrier is currently under construction. The Efficacy Study did not mention Lock closures in any form.

Congress has also given the Secretary of the Army the authority, subject to the requirements of USACE regulations, policy and guidelines, to implement measures recommended in the Efficacy Study, or provided in interim reports, authorized under Section 3061 of the WRDA (121 Stat. 1121), with such modifications or emergency measures as the Secretary of the Army deems to be appropriate, to prevent aquatic nuisance species from bypassing the Chicago Sanitary and Ship Canal Dispersal Barrier Project and to prevent aquatic nuisance species from dispersing in the Great Lakes. Energy and Water Development Appropriations Act of 2010, P.L. 111-85.

This authority was delegated to Assistant Secretary Darcy, in her capacity as Assistant Secretary of the Army, in July, 2009. See, Declaration of Assistant Secretary Darcy, filed with the U.S. Supreme Court, a copy of which is incorporated herein as Exhibit "Q," at p. 2. In November, 2009, Secretary Darcy exercised her Section 126 Authority to apply rotenone, a fish toxin, in a section of the CSSC during a maintenance shutdown of the Barriers. See, Secretary Darcy Declaration, at p. 3. Such authority was exercised contingent on the completion of the processes required by the National Environmental Policy Act, ("NEPA") and other applicable environmental laws. See, Secretary Darcy Declaration, at p. 3.

In her Declaration to the U.S. Supreme Court in January, 2010, Secretary Darcy stated that the USACE concluded that there was insufficient information to support a finding that the threat of Asian carp in the waterways warrants Lock closures. See, Secretary Darcy Declaration, at. p. 4. Also in her Declaration, she stated that Section 126 Authority would be based on recommendations by the USACE, and the factors to be considered in evaluating such recommendations include: “(a) the risk that an aquatic nuisance species will bypass the existing control measures; (b) the severity of the threat to the ecosystem that such an aquatic nuisance presents; (c) the feasibility, efficacy and environmental soundness of any recommended emergency measure; (d) the consequences of any recommended emergency measure with regard to Congress’ directive that the Illinois Waterway (CAWS) be maintained for purposes of navigation; and (e) the consequences of any recommended measure on flood mitigation and control efforts.” See, Secretary Darcy Declaration, at. p. 2.

II. A DISCUSSION OF THE HISTORY OF THE ILLINOIS WATERWAY SYSTEM IS VITAL TO SHOW THE ARBITRARY NATURE OF THE USACE DECISION TO CLOSE THE LOCKS.

A. INTRODUCTION.

In the late 19th century, Chicago developed a plan to reverse the flow of the Chicago River because it had become polluted. The plan was to reverse the flow of the river, so that it flowed away from Lake Michigan and toward the Mississippi River, ultimately emptying into the Gulf of Mexico. Libby Hill, *“The Chicago River: A Natural & Unnatural History”* 119, 122, Lake Claremont Press 2000. Using the creation of a new canal system, Illinois redirected the Chicago River to flow west into the Des Plaines River, a tributary of the Illinois River and ultimately to the Mississippi River. By reversing the Chicago River flow, the canal systems helped dilute and flush away pollution. *Id.*, at 115. Reversing the Chicago River also caused the waterway’s new canal system to be deep enough to permit commercial navigation. *Id.* at 119-120. With the completion of the new canal

called the CSSC in 1900, the permanent connection between Lake Michigan and the Mississippi drainage basins was finalized. See, *Missouri v. Illinois*, 200 U.S. 496 (1906).

B. OVERVIEW OF THE CANAL SYSTEM

The CSSC is a part of a canal system called CAWS. The CAWS is a system of canals and natural waterways serving as both a navigational link between the Mississippi River System and Lake Michigan, as well as an outlet for the storm water and effluent of the city of Chicago. The CAWS consist of the CSSC, the North Shore Channel, and the Calumet-Sag Channel. The CAWS was to link the Mississippi River with the Chicago Calumet, Grand Calumet and Little Calumet Rivers to reverse the flow of these rivers away from Lake Michigan.

Lake Michigan is the sole source of the city of Chicago's drinking water supply. See, Affidavit of Suzanne Malec-McKenna filed with the U.S. Supreme Court, a copy of which is attached hereto as Exhibit "r," and which is incorporated herein by this reference at p. 2. Over seventy percent (70%) of the annual flow in the CAWS is from the discharge of treated municipal water effluent from water reclamation plants operated by the MWRD.

C. THE NAVIGATIONAL LOCKS

To allow for navigation on the CSSC, three locks were built: the Lockport Powerhouse and Lock, the O'Brien Lock and Dam, and the Lock at the Chicago River Controlling Works, the Chicago Lock. By statute, the USACE operates and maintains the CSSC as needed to support navigation from Chicago Harbor on Lake Michigan to Lockport on the Des Plaines River. See, e.g., Energy and Water Development Appropriation Act, 1982, Pub. L. No. 97-88, § 107, 95 Stat. 1137 (1981); Supplemental Appropriations Act, 1983, Pub. L. No. 98-63, Tit. I, Ch. IV, 97 Stat. 311. The USACE operates them in accordance with the MWRD regulations. See, Affidavit of Danial Injerd, filed with the U.S. Supreme Court, a copy which is incorporated herein as Exhibit "S," at ¶13.

Vessels enter and exit the Chicago end of the CSSC through the O'Brien Lock and the Chicago Lock.

Flow of the CAWS is managed by the MWRD, but is subject to regulation under the U.S. Supreme Court Decree and 33 CFR Parts 207.420 and 207.425, which provide for the maintenance of navigable depths to support commercial navigation.

Pursuant to agreements between the USACE and MWRD, both the Chicago Lock and the O'Brien Lock are used for flood control purposes. Connected to the Locks are sluice gates, which are used to combat the risk of flooding during significant rainstorms by drawing water from the CAWS into Lake Michigan. The MWRD operates the sluice gates—which are large plates that slide into grooves in the sides of a channel. The sluice gates control water level and flow rates at the O'Brien Lock and Dam, the Chicago Controlling Lock and the Wilmette Pumping Station. The sluice gates and pumps are controlled by the MWRD. The MWRD uses the sluice gates to regulate the diversion of Lake Michigan water into the CAWS; and to direct diversion from Lake Michigan to improve and maintain inland water quality, lockage and navigation.

The Chicago Lock and the O'Brien Lock are the gateway to one of the nation's busiest commercial and recreational waterways.

D. BUSINESS ON THE CAWS

The connection of the Mississippi River to the Great Lakes has resulted in enormous economic growth since the creation of the CAWS. In 2006, approximately one hundred seventy-three million (173) tons of commodities were transported to and from U.S. ports located on the waterways of the Great Lakes system, which accounts for about ten percent (10%) of all U.S. waterborne domestic traffic. See, USACE study, "*Great Lakes Navigation System: Economic Strength to the Nation*," completed January 2009 (the "Economic Strength Study"), a copy of which

is attached hereto as Exhibit "T," and which is incorporated herein by this reference. More than eighty percent (80%) of the iron ore used in the United States steel industry is transported on the Great Lakes Navigation System ("GLNS"). The GLNS is a complex deepwater navigation system stretching one thousand six hundred (1,600) miles through all five Great Lakes and connecting channels from Duluth, Minnesota to Ogdensburg, New York. See, Economic Strength Study, at p. 1. Industries such as iron and steel, cement manufacturing, energy production and agricultural exports depend heavily on the availability of reliable waterborne transportation. See, Economic Strength Study, at p. 1.

The waterways save approximately three billion, six million dollars (\$3.6B) per year over the next least costly mode of transportation and provide a positive economic impact to the U.S. economy as a jobs provider. See, Economic Strength Study, at p.1. There are forty-four thousand (44,000) jobs directly related to maritime transport, over fifty-four thousand (54,000) jobs in the mining industry and one hundred thirty-eight thousand (138,000) jobs in the steel industry that are dependent on the GLNS, in addition to hundreds of thousands of additional jobs that are related to these industries such as auto manufacturing. See, Economic Strength Study, at p 1. These figures show the importance of preserving the status quo to maintain the positive economic benefit that keeping the Locks open would ensure.

The waterways also play a vital role in preserving our nation's fuel. See, Economic Strength Study, at p. 2. In contrast, truck transportation is much less fuel efficient, creates significant wear-and-tear on the nation's infrastructure and increases congestion on already over-crowded roadways. See, Economic Strength Study, at p. 2. The waterways offer a fuel-efficient, low carbon producing, and low-cost option of transportation for millions of tons of bulk material that are essential to this country's industrial strength. See, Economic Strength Study, at p. 2. Closing the Locks would

increase the nation's fuel consumption which could lead to higher prices and a greater demand for fuel.

The Chicago Lock is one of the busiest locks in the nation with annual lockages of twelve thousand (12,000). See, Economic Strength Study, at p. 2. The Chicago Lock is vital for commerce, recreation, and preserving the safety of Chicago's shoreline. Over thirty-five thousand (35,000) commercial and recreational boats, with six hundred eighty thousand (680,000) passengers and one hundred twenty-five thousand (125,000) tons of freight pass through the Chicago Lock annually. See, Economic Strength Study, at p. 2. The Chicago Lock permits safe passage of boats navigating the two (2) to five (5) foot difference in the water level between Lake Michigan and the Chicago River. See, Economic Strength Study, at p. 2. The Chicago Lock also prevents the flooding of downtown Chicago from the Chicago River by serving as a flood reduction structure. See, Economic Strength Study, at p. 2. This Court must allow the Locks to remain open in order to prevent the serious threat of harm posed to safety of Chicago and its economic vitality.

E. RECREATIONAL USES ADVANCED BY THE CAWS CREATES REVENUE AND JOBS

Another vital industry that provides an economic benefit to Chicago and Illinois are the commercial cruises and tours that ferry an estimated seven hundred sixty thousand, one hundred (760,100) passengers through the Locks each year. See, Economic Strength Study, at p. 2. These passengers spend money on fares, food, drink, and other items which benefit the local economy. There are also out of water revenues related to sightseeing and tour boats that impact tourism in and around Chicago. Approximately seventy-five percent (75%) of all tours and cruises in Chicago on the river system involve use of the Locks. See, Economic Strength Study, at p. 13.

F. THE BARRIER SYSTEM

Congress enacted the NANPCA after recognizing the threat posed by invasive aquatic species. 16 U.S.C. § 4701, *et. seq.* In October 1996, the National Invasive Species Act (“NISA”) became law and authorized the USACE to study preventative measures to keep invasive species out of the CAWS and authorized construction of Barrier I on the CAWS. 16 U.S.C. § 4701, *et seq.*; 16 U.S.C. § 4722(i)(3). Barrier I was implemented to stop the emigration of aquatic nuisance species through the CAWS and its electric field is designed to repel fish.

The electrical dispersal Barriers operate by creating an electrical field in the water of the CAWS, which either stuns fish or creates sufficient discomfort to deter them from attempting to pass through the area. The field is created by running direct electrical current through steel cables secured to the bottom of the CAWS. Those fish which infiltrate the electric field receive increasingly unpleasant electrical stimuli. The electric field repulses fish and is a deterrent to fish swimming through the electrified area.

In 2004, a second Barrier was approved under Section 1135 of the Continuing Authority Program, 33 U.S.C. § 2309a. Barrier II incorporated results from various research studies pertaining to fish deterrence. Its electrical arrays send a pulsing DC current creating an electric field in the water that deters fish from passing across the area. Section 3061 of the WRDA authorized the USACE to upgrade and make Barrier I permanent and to complete Barrier IIA. Section 3061 of the Water Resources Development Act of 2007, Pub. L. 110-114, 121 Stat. 1121. According to the USACE, a third barrier, Barrier IIB, is due to be completed in the fall of 2010.